

Green Entrepreneurship in Developing Countries: A Systematic Review of the driving factors and challenges in realizing sustainable business

Original Article

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Abstract

This study aimed to analyze the growth of green entrepreneurship, also known as green entrepreneurship, in developing countries, with particular emphasis on the components that affect business sustainability. Green entrepreneurship orientation and green innovation are critical to improving the economic, social, and environmental performance of businesses, according to research conducted on fourteen Scopus-indexed scientific articles from 2021-2025. However, green practices still face structural challenges such as limited capital, access to green technologies, and limited policy support. Institutional elements, public policies, and local social and cultural principles play a significant role in strengthening the green entrepreneurship ecosystem. To accelerate the transformation towards a sustainable economy in developing countries, this study confirms that governments, businesses, and communities must work together in various sectors.

Keywords: Green entrepreneurship, Green Innovation, Developing Countries, Business Sustainability, Public Policy.

1. Introduction

The global economic paradigm has shifted toward sustainable development as a response to climate change, environmental degradation, and rising carbon emissions. Green entrepreneurship has emerged as a critical concept within this context, as it integrates economic objectives with environmental preservation. According to Marganingsih et al. (2023), green entrepreneurship emphasizes social and environmental responsibility by creating innovative solutions that generate positive ecological and social impacts, while simultaneously contributing to economic improvement through community-based training and engagement.

Given the scale of current environmental challenges and pressing economic demands, opportunities for developing green businesses are substantial in developing countries. However, significant structural barriers persist, including limited capital, inadequate infrastructure, and insufficient policy support. Small-scale green enterprises in South Africa, for example, experience institutional constraints that hinder their ability to access financing and adopt environmentally friendly technologies (Friday et al., 2024). A similar pattern is evident in Indonesia, where micro and small businesses often lack awareness of, or struggle to implement, green principles in their operations (Shofihawa, 2025).



The success of green enterprises in developing countries is strongly influenced by the institutional environment. Tawiah et al. (2021) reveal that factors such as energy efficiency, institutional quality, and environmental regulations significantly shape green growth in both developed and developing economies. Countries with clear environmental policies and regulatory frameworks tend to be more capable of building ecosystems that support green initiatives (Tawiah et al., 2021). These findings underscore the critical role of public policy in creating enabling environments for green entrepreneurship.

Beyond policy, cultural and social factors also strengthen the green entrepreneurship ecosystem. Research by Rahmawati et al. (2023) in Indonesia demonstrates that local characteristics and cultural values can foster the emergence of green entrepreneurial practices, particularly in ecotourism. Community involvement enables entrepreneurs to develop innovative ideas that align with local cultural norms while safeguarding the environment. Accordingly, adapting strategies to local contexts becomes essential for ensuring the sustainability of green enterprises in developing countries.

Despite the growing body of research on green entrepreneurship, most studies continue to focus on developed economies, while developing countries receive comparatively less scholarly attention. Much of the sustainability entrepreneurship literature is concentrated in Europe and North America, with limited exploration of structural challenges in Asia and Africa. Consequently, a deeper and more systematic investigation into the characteristics, barriers, and opportunities of green entrepreneurship in developing countries is urgently needed (Aljuwaiber, 2020; Madzivhandila et al., 2025).

The Systematic Literature Review (SLR) approach serves as an appropriate method for analyzing this phenomenon. SLR enables researchers to identify patterns, research gaps, and best practices across developing-country contexts. Collaboration among public, private, and community sectors is essential for advancing sustainable green innovation, as highlighted by Ardhiyansyah et al. (2023). This study aims to provide a comprehensive understanding of the conditions, challenges, and strategies necessary to strengthen green enterprises in developing nations by conducting an SLR of the existing literature.

2. Literature Review

2.1. Green Entrepreneurship within the Sustainable Economic Paradigm

The global shift toward a sustainable economic paradigm reflects growing awareness of the adverse impacts of climate change, environmental degradation, and excessive natural resource exploitation. This transition demands business models that prioritize not only financial gains but also social and environmental considerations (Genoveva & Tanardi, 2022). Within this context, green entrepreneurship has become a critical concept that integrates economic benefits with environmental responsibility. Green entrepreneurship refers to business activities that generate economic value while preserving the environment through eco-friendly innovation, efficient energy use, and sustainable waste management (Soelaiman & Sariutami, 2024). The concept underscores the importance of green entrepreneurial orientation (GEO) as a strategic and attitudinal foundation enabling firms to develop greener and more sustainable products and processes (Muangmee et al., 2021). Prior research demonstrates that GEO positively influences green innovation, which in turn enhances competitiveness and overall firm performance (Rudiningtyas et al., 2024). Consequently, in the modern economic landscape, green entrepreneurship is not merely an ethical choice; it constitutes a strategic imperative for addressing global challenges while securing long-term competitive advantage.

2.2. Barriers to Green Entrepreneurship in Developing Countries

Despite substantial opportunities for the development of green businesses in developing countries, significant structural barriers remain. Limited access to capital, weak institutional support, and restricted availability of environmentally friendly technologies are major constraints hindering the growth of green enterprises (Zein et al., 2024). Many small and medium-sized enterprises are unable to adopt green practices due to resource limitations, insufficient technical knowledge, and the absence of adequate policy incentives (Rahmawati et al., 2023). These constraints are further exacerbated by the high costs associated with implementing green technologies and the scarcity of dedicated funding for sustainability-oriented projects (Vasilescu et al., 2023).

In many cases, financial institutions perceive green investments as high-risk and long-term in nature, leading to reluctance in providing financial support. As a result, a substantial gap persists between awareness of sustainability and the capacity to implement it in developing economies. Addressing this challenge requires public policies that promote green finance and foster collaboration among the private sector, government, and donor agencies to expand access to capital and facilitate technology transfer (Nurfatriani et al., 2015). Strengthening support structures and green financing systems thus becomes a critical lever for accelerating the transition toward an inclusive green economy.

2.3. Social and Cultural Factors in Advancing Green Enterprises

Beyond economic drivers and regulatory frameworks, social and cultural dimensions play a pivotal role in shaping the emergence of green entrepreneurship. Local values and traditional knowledge can motivate environmentally responsible business practices rooted in community participation (Rahmawati et al., 2023). In the ecotourism sector, for instance, local community involvement in managing natural resources has increased environmental awareness while creating sustainable economic opportunities (Hafidz et al., 2024).

A supportive social environment and a culture that values nature can foster entrepreneurial behaviors aligned with sustainability principles (Scartozzi et al., 2025). When green entrepreneurial practices resonate with local cultural values and gain community acceptance, such initiatives are more likely to endure. Community-based approaches not only strengthen social cohesion but also support the steady growth of green enterprises in developing countries. Thus, the success of green entrepreneurship hinges on the integration of innovation with the social and cultural values embedded within local communities.

3. Methods

This study synthesizes the landscape of green entrepreneurship in developing countries using a Systematic Literature Review (SLR) approach. Sutriawan et al. (2024) emphasize that the strength of SLR lies in its ability to provide a comprehensive and objective understanding of a research topic while minimizing researcher bias in the selection of relevant literature. The present study aims to analyze the various impacts associated with the implementation of green entrepreneurship, particularly its social and economic effects in developing countries. The analysis follows the PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analysis) framework, as outlined below.

a) Identification

Articles were retrieved from Emerald Insight, Wiley Online Library, Sage Journals, ScienceDirect, and Springer. The search strategy applied across all databases used the following keywords: “green entrepreneurship” AND “eco-entrepreneurship” AND “developing countries” OR “emerging economies” AND “social impact” OR “economic performance”. This broad search strategy ensured coverage of studies addressing both environmental entrepreneurship and its socio-economic implications in developing contexts.

b) Screening

At this stage, criteria are determined to classify articles in accordance with the topic of discussion. Synthesized articles must meet the inclusion criteria, namely in the form of research articles (research article), research related to green entrepreneurship, with the subject area of research being management, business, and accounting. In this SLR study, the research article focused on medium-sized companies in developing countries based on the World Bank (2024), IMF, and United Nations, and the year the article or journal was published in 2020-2025. Furthermore, the criteria for excluded articles are articles that do not meet the inclusion criteria and conceptual/ literature review articles, as well as articles that cannot be accessed.

c) Inclusion

Articles meeting the keyword and inclusion criteria were manually rechecked, as keyword-based searches often return publications that fall outside the intended scope. The initial search yielded 3,033 articles, but only 14 met all inclusion criteria. A risk-of-bias assessment, or Quality Assessment, was subsequently conducted. According to Negarandeh & Beykmirza (2020), such an assessment involves evaluating the methodological rigor, the completeness of data reporting, and the presence of any external interventions that may influence the findings.

The fourteen included articles were published in reputable peer-reviewed journals, verified through SCImago Journal Rank (SJR). Table 1 presents the detailed quality assessment of the articles included in this SLR.

Table 1. Articles included

No	Authors & Year	Research Purpose	Methodology	Key Findings
1	Tu et al. (2023)	Analyze the influence of sharing economy activities on SDG achievement in developing countries (E7).	Quantitative survey; SEM (AMOS).	CSR, eco-design, supplier, internal, and customer green management positively affect SDG performance.
2	Chen et al. (2024)	Examine the relationship between green marketing, eco-innovation, and the circular economy on sustainable manufacturing performance.	Survey of 201 professionals; SEM.	Green marketing and eco-innovation positively influence sustainable performance; the circular economy acts as a moderator.
3	Sadiq et al. (2025)	Assess how knowledge management and green IT contribute to sustainable entrepreneurship.	Survey; PLS-SEM.	Knowledge creation and transfer positively influence sustainable entrepreneurship; application is non-significant; green IT strengthens the relationship.
4	Mejía et al. (2025)	Explore strategies for implementing inclusive supply chains by MNCs in Mexico.	Qualitative: interviews and observations.	Inclusive supply chains are built through multi-stakeholder collaboration aimed at reducing inequality.
5	Appiah et al. (2025)	Investigate the effect of green process innovation on the financial performance of SMEs in Ghana.	Survey of 224 SMEs; SEM.	Green process innovation improves financial performance, supported by green value co-creation.
6	Bhatti et al. (2023)	Test the impact of sustainable procurement, packaging, and distribution on the performance of service SMEs in Pakistan.	Time-lagged survey; PLS-SEM.	Sustainability practices positively influence performance; eco-innovation partially mediates the relationship.
7	Kofi Opoku et al. (2023)	Analyze the effects of sustainable manufacturing practices on sustainable performance in Ghana's food sector.	Survey of 247 managers; PLS-SEM.	Green and inventory practices significantly influence all performance dimensions; lean practices affect social and environmental performance.
8	Rehman et al. (2023)	Examine the impact of green supply chain management (GSCM) and green culture on green performance with mediators PES and GPI.	Survey of 663 respondents; PLS-SEM.	GSCM affects performance indirectly through proactive environmental strategy and green product innovation.
9	Ali et al. (2024)	Evaluate the influence of green HRM and GSCM on sustainable performance in the Bangladeshi textile industry.	Survey of 450 employees; SEM (AMOS).	GHRM and GSCM enhance sustainable performance via environmental and employee performance.
10	Bui et al. (2025)	Explain the factors influencing sustainable entrepreneurial intention in Vietnam.	Survey of 330 students; multiple regression.	Attitude toward sustainability and perceived feasibility have

				positive effects; desirability is non-significant.
11	Yin et al. (2022)	Determine how green entrepreneurship affects SME performance with firm age as a moderator in China.	Secondary data on 1,667 SMEs; panel regression.	Green utility model innovation increases performance; the effects are stronger among older firms.
12	Rong et al. (2025)	Assess how green entrepreneurial orientation affects entrepreneurial success through green innovation capability.	Survey of 300 manufacturing and service employees; PLS-SEM.	Green entrepreneurial orientation and innovation capability positively influence business success.
13	Abdelkafi et al. (2023)	Critically examine the effectiveness of combining sustainable business model patterns.	Conceptual study; theoretical analysis.	Combining sustainable business model patterns does not automatically ensure true sustainability; systemic and contextual analysis is required.
14	Karimi et al. (2021)	Investigate the effect of entrepreneurial orientation on agricultural SME growth in Iran, mediated by entrepreneurial leadership and market orientation.	Survey of 240 SME owners/managers; SEM.	Entrepreneurial orientation significantly drives SME growth via leadership and market orientation.

Source: data processed, 2025

These fourteen articles are from reputable journals, so it can be said that the articles used in this study are of good quality. Here is the distribution of articles used in this study.



Figure 2. Journal article distribution and ranking (SJR)

Furthermore, from the fourteen articles used in this study can be seen from the year limits used for the included articles are shown in Figure 3 below.

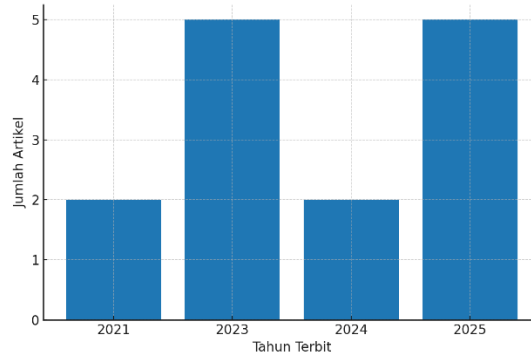


Figure 3. Articles based on the year of publication

The last detail is the distribution of the Yairu research locations in which focus on research results from developing countries. This distribution is shown by the following Figure 4.

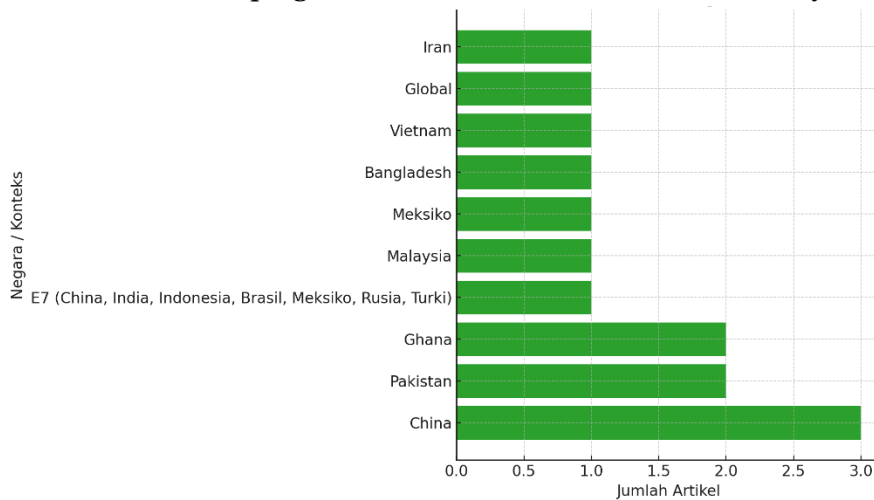


Figure 4. Distribution of articles by country

The mapping results showed that the source of articles in this study came from various well-known international journals, with the largest number of Journal of Innovation & Knowledge (three articles) and Cleaner Logistics and Supply Chain (two articles), both journals are included in the Q2-Q3 category. Meanwhile, most other journals are in the Q1–Q2 category, which indicates that the literature sources used are of good academic quality. Judging by the year of publication, the published research is dominated by 2025 and 2023, which shows that the topic of green entrepreneurship has become more relevant and developed rapidly in the past two years. Viewed from a geographical context, most of the studies were conducted in developing countries such as China, Pakistan, and Ghana, while some other studies focused on Malaysia, Mexico, Vietnam, Bangladesh, and Iran. In addition, there is one conceptual research that is global. These findings show that interest in green entrepreneurship is growing in developing regions that are facing various challenges and opportunities in achieving sustainable economies.

4. Results and Discussion

4.1. Green Entrepreneurship Orientation and Innovation for Business Sustainability

Most of the studies analyzed indicate that green entrepreneurial orientation (GEO) and green innovation are critical drivers of sustainable business performance. Research conducted in the manufacturing and service sectors in China demonstrates that GEO has a positive influence on entrepreneurial success through green innovation and adaptive capabilities (Chen et al., 2024). Similar findings are reported by Appiah et al. (2025), who emphasize that the combination of GEO, innovation capabilities, and knowledge management contributes significantly to the creation of sustainable value among small and medium-sized enterprises (SMEs) in Ghana. Other studies also show that environmental innovation strongly mediates the relationship between green orientation and organizational performance (Ali et al., 2024; Yin et al., 2022).

In this context, green product innovation and green process innovation enhance energy efficiency and reduce waste generation (Bhatti et al., 2023). Beyond environmental benefits, these strategies strengthen corporate competitiveness by lowering production costs and improving brand reputation (Tu et al., 2023). Additionally, Agrawal et al. (2024) highlight the importance of green financial policy support in accelerating green innovation, noting that the availability of environmentally friendly capital expands the adoption of green technologies in industrial sectors. Overall, the literature shows that the success of sustainable innovation is strongly shaped by internal organizational factors, particularly managerial commitment and a green entrepreneurial culture (Chen et al., 2024). Thus, GEO functions as a strategic foundation for integrating green innovation into business processes. Sustainability-oriented dynamic capabilities serve as a long-term source of competitive advantage in global markets (Mejía et al., 2025).

4.2. Structural, Institutional, and Green Financing Factors

Despite the strong potential of green entrepreneurship in developing countries, many studies reveal that its implementation continues to face structural and institutional barriers. According to Mkhonza (2018), green entrepreneurs in South Africa face difficulties in accessing financing and environmentally friendly technologies due to limited institutional support. Similar conditions are observed across Asia, where SMEs are unable to fully implement green principles because of resource constraints and insufficient policy backing (Rahmawati et al., 2023).

Several of the 14 analyzed articles highlight a persistent gap between sustainability awareness and the actual capability to implement green practices. Vasilescu et al. (2023) underscore that the high costs of adopting green technologies and limited access to financing remain the primary obstacles for greening businesses in developing nations. Prasetyo and Adinugraha (2023) further argue that green financing plays a strategic role as a policy instrument to address capital shortages by providing incentives for firms investing in green innovation. Beyond financial considerations, managerial quality and institutional stability also shape the effectiveness of green policy implementation. Tawiah et al. (2021) report that countries with strong environmental regulations tend to achieve higher levels of green growth.

Public policy support—such as tax incentives, carbon credits, and renewable energy investments—is essential for cultivating an enabling environment for green entrepreneurship (Tu et al., 2023). However, findings from Appiah et al. (2025) and Bhatti et al. (2023) reinforce that the success of green financing programs requires collaboration among governments, financial institutions, and businesses. Thus, the primary challenge for developing countries

extends beyond funding shortages and includes the need to build inclusive and efficient institutional systems that support long-term green transformation.

4.3. Social and Cultural Factors in Green Enterprise Development

In addition to economic and policy-related factors, social and cultural dimensions play a pivotal role in strengthening the ecosystem for green entrepreneurship. According to Rahmawati et al. (2023), local values and community participation within Indonesia's ecotourism sector foster community-based green entrepreneurship. This approach is effective because it aligns business strategies with local cultural norms, enhancing social acceptance and the sustainability of operations. Similarly, Hafidz et al. (2024) argue that community-based ecotourism helps residents develop green entrepreneurial skills while balancing environmental conservation with local economic growth.

This approach broadens environmental awareness and integrates social responsibility into everyday business activities. A study by Kofi Opoku et al. (2023) in Ghana also shows that social support and worker engagement in green production significantly influence the success of green innovation. Moreover, green human resource management practices (Ali et al., 2024) strengthen environmentally responsible organizational cultures by providing training and encouraging active employee involvement in sustainability initiatives. Consequently, social and cultural dimensions serve not merely as contextual backgrounds but as foundational pillars for the long-term sustainability of green entrepreneurship. Entrepreneurs who are attuned to local values and social dynamics are better positioned to develop flexible, inclusive green business models.

5. Conclusion

Green entrepreneurship has been widely recognized as a critical strategy for advancing sustainable economic growth in developing countries. Green entrepreneurial orientation and green innovation serve as key drivers that enhance firms' economic, social, and environmental performance. Small and medium-sized enterprises with strong green orientations are able to develop resource-efficient products and processes, reduce waste, and strengthen their market reputation in increasingly environmentally conscious markets. Consequently, green entrepreneurship supports the transition toward a green economy, functioning both as a form of social responsibility and as a long-term competitive strategy.

Developing countries, however, continue to face several structural challenges, including limited capital, insufficient policy support, and restricted access to environmentally friendly technologies—despite their substantial potential. Accelerating sustainable transformation, therefore, requires public policies that foster green innovation and strengthen green financing instruments. Moreover, collaboration among governments, private sector actors, financial institutions, and academic bodies is essential to building a dynamic and inclusive green entrepreneurship ecosystem.

The success of green entrepreneurship is also highly dependent on social and cultural factors that shape business behavior and legitimacy. Community-based approaches aligned with local values have proven effective in increasing public participation and reinforcing regional economic sustainability. Thus, promoting green enterprise development in developing countries demands strategies that extend beyond technology and economic policy, placing equal emphasis on social empowerment and cultural adaptation. The integration of green innovation, consistent policy support, and active community participation will be fundamental to establishing a resilient and sustainable green entrepreneurship ecosystem.

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